

Title (en)

Process and apparatus for production of toilet paper rolls having no core.

Title (de)

Verfahren und Apparat zur Herstellung von Toilettenpapierrollen ohne Kern.

Title (fr)

Procédé et appareil pour la production de rouleaux de papier hygiénique sans noyau.

Publication

EP 0577424 A2 19940105 (EN)

Application

EP 93305173 A 19930701

Priority

- JP 2539093 A 19930215
- JP 8665392 U 19921217
- JP 17571192 A 19920702
- JP 30554192 A 19921116
- JP 32687092 A 19921207

Abstract (en)

Rolls of toilet paper are produced by winding a paper web around each of a plurality of air permeable cylindrical cores each having a fixed, outer diameter while applying a liquid to only a leading portion of each web so that wound webs each having a wet inner portion are formed. After drying the wound webs to integrally bind the inner portion, the core is separated from each of the wound webs. The above method is carried out using an apparatus including a winding device having a shaft to which the cylindrical cores are detachably fitted in a row, a drive device for rotating the cores supported by the shaft and to wind a paper web around each of the cores, an applying device for wetting only a leading portion of each to form a wet inner portion, a releasing device for releasing the wound web-bearing cores from the shaft to obtain arrays of the released, wound web-bearing cores, a drying device for drying the wet inner portion of each wound web, and a separating device for separating the wound webs from the cores.

IPC 1-7

B65H 19/22

IPC 8 full level

B65H 19/22 (2006.01)

CPC (source: EP KR US)

B65H 18/28 (2013.01 - KR); **B65H 19/22** (2013.01 - EP US); **B65H 2301/4148** (2013.01 - EP US); **B65H 2301/41485** (2013.01 - EP US); **B65H 2301/41745** (2013.01 - EP US); **B65H 2408/235** (2013.01 - EP US); **B65H 2701/1846** (2013.01 - EP US)

Cited by

EP0675063A1; WO0240387A1

Designated contracting state (EPC)

BE DE DK FR GB IT NL SE

DOCDB simple family (publication)

EP 0577424 A2 19940105; **EP 0577424 A3 19950222**; **EP 0577424 B1 19990428**; AU 4162493 A 19940106; AU 665092 B2 19951214; CA 2099148 A1 19940103; CA 2099148 C 20021105; DE 69324632 D1 19990602; DE 69324632 T2 19990923; KR 100218845 B1 19991001; KR 940005386 A 19940321; US 5352319 A 19941004; US 5407509 A 19950418

DOCDB simple family (application)

EP 93305173 A 19930701; AU 4162493 A 19930629; CA 2099148 A 19930625; DE 69324632 T 19930701; KR 930012431 A 19930702; US 24036794 A 19940510; US 8122093 A 19930625